# *A Proposal To Sample Buildings for the Presence of World Trade Center Dust*

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World Trade Center Expert Technical Review Panel

# *Objectives*

**To determine the geographic extent of WTC dust residues in residential and non-residential buildings. Results will be related to cleaning history of the buildings to the extent possible.**

**To validate a method to identify a WTC signature in sampled dust**

# Approach For Sampling

Identify area for sampling

Identify buildings in area for potential sampling

- Buildings will be included on a voluntary basis

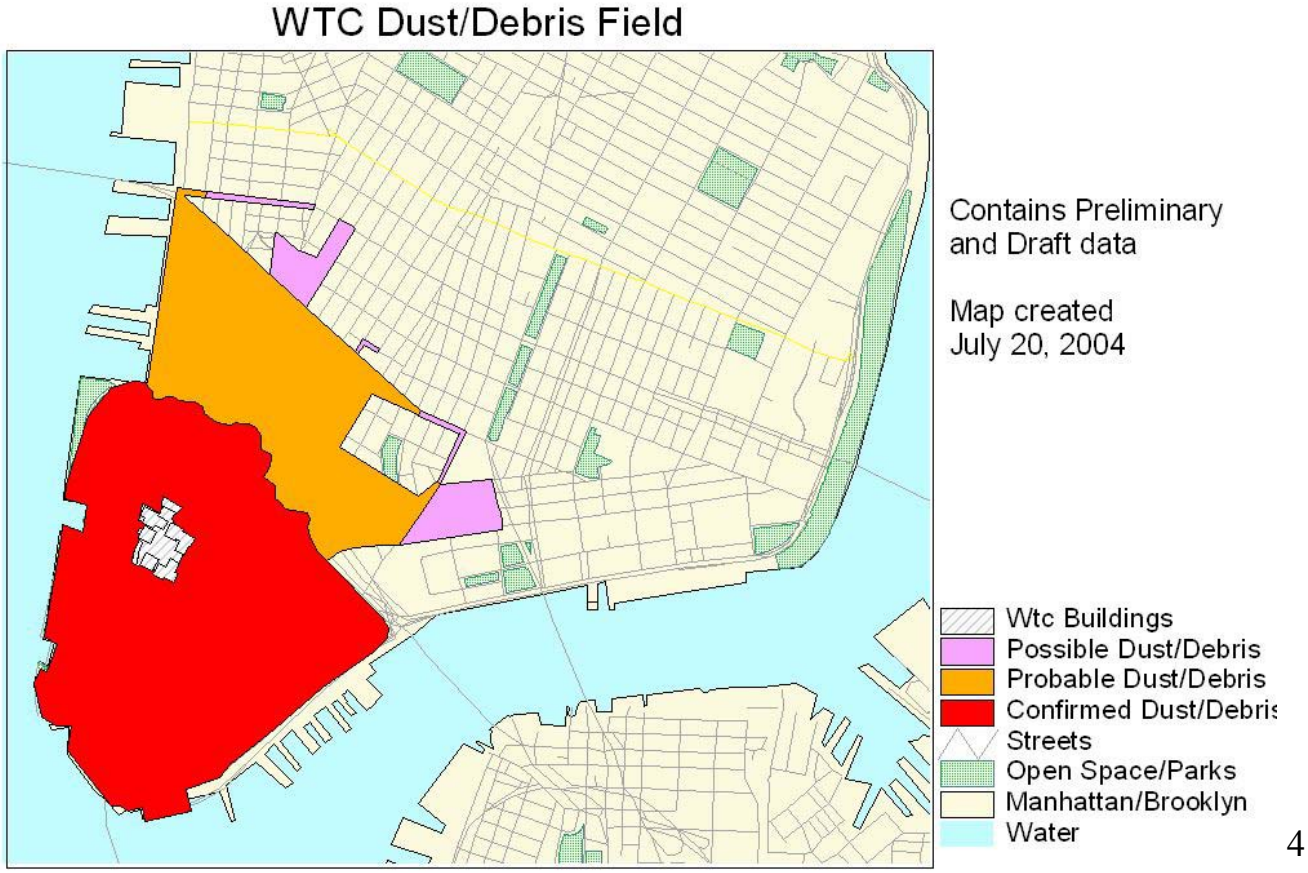
Overlay grid on sampling area

Statistically select grid node points and sample the building nearest grid node point

Conduct air and dust sampling in several units in building in order to characterize the building

# Sampling Area

EPIC (Environmental Photographic Interpretation Center) analysis identified areas known (red), probable (orange), and possible (purple) areas of deposition of WTC dust and debris.



# Identify Buildings

Residential and non-residential buildings to include:

Public buildings: public schools, public office buildings, fire house, police station, public housing, etc.

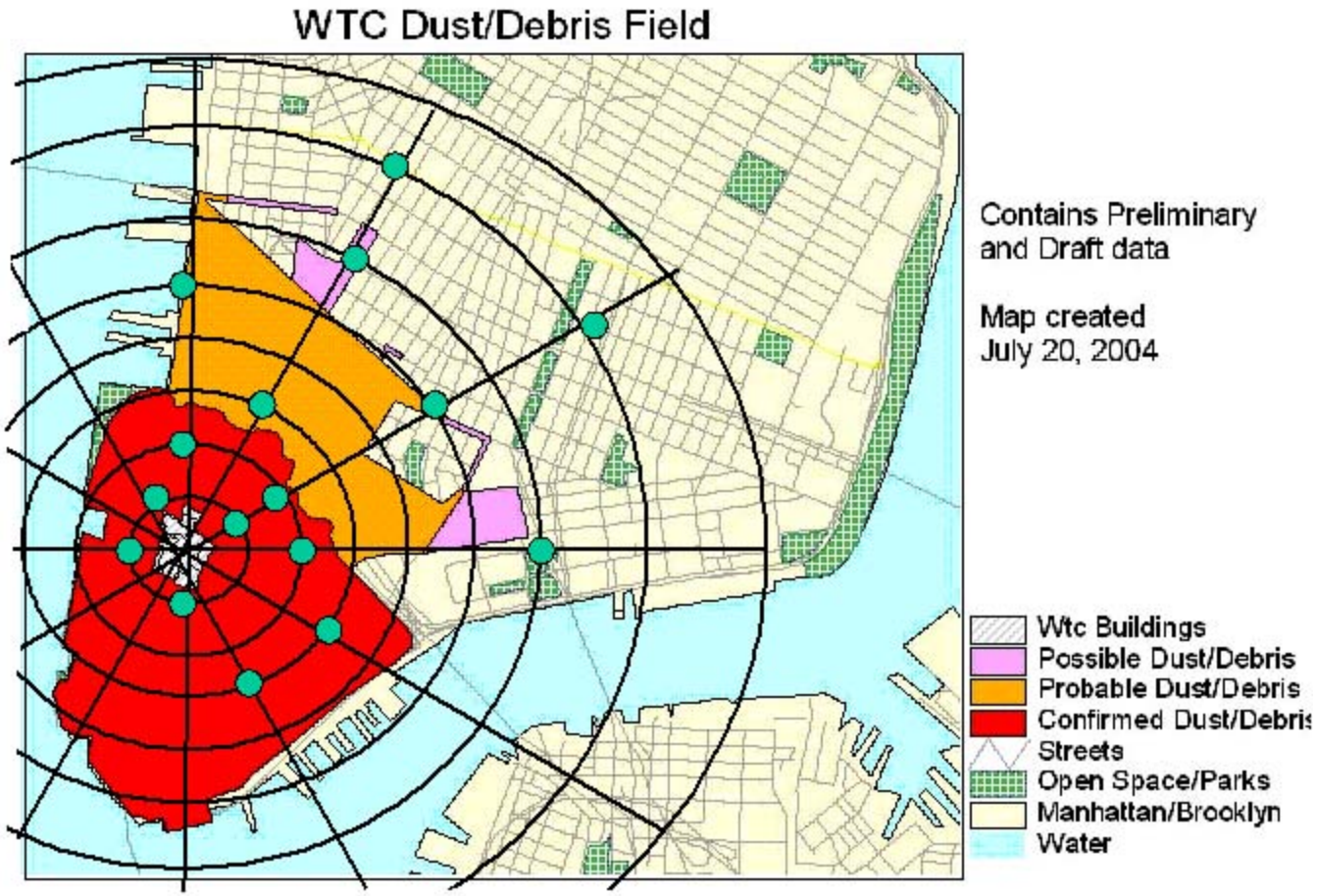
Private buildings: apartment housing, commercial, private office buildings, etc.

The intent is to characterize the entire building, not just a single unit, or a small number of units within the building. Access must be available to sample a sufficient number of units within the building.

All buildings that participate do so on a volunteer basis.

# Identify Buildings

Step 1: Lay a grid over the sampling area
Step 2: Select node points
Step 3: Locate building nearest node point



# Building Characterization

Sample 1 “unit” per 2 floors

A “unit” is a confined and defined space such as an apartment, a classroom, a workspace (cubes + offices), etc. within a building

Units spatially closest to Ground Zero will be sampled, e.g., units facing Ground Zero

# Unit Characterization

Microvac (for porous surfaces such as furniture/rugs) + wipe (for nonporous surfaces) samples

Sample accessible (counter-tops, rugs) and inaccessible (tops of bookshelves, behind furniture) areas

Concurrent passive air sampling for purposes of further information on air/dust correlation and human health impact.

# HVAC Sampling

Take dust samples in:

- outdoor air inlet to HVAC
- downstream of air filters
- air mixing plenums serving sampled floors
- HVAC outlet discharging to locations where COPC samples are taken.

# Contaminants

| COPC | Indoor Air Benchmark | Settled Dust Benchmark |
|---|---|---|
| Asbestos | 0.0009 S/cc | n/a |
| MMVF | 0.01 S/cc | n/a |
| PAH | 0.2 $\mu g/m^3$ | 150 $\mu g/m^2$ |
| Silica | 5 $\mu g/m^3$ | n/a |

# Data Analysis

Results will be presented in terms of the number, proportion and location of buildings where measurements exceed health benchmarks and presence of WTC signature dust is indicated.

Results will be categorized by distance from the WTC site.

Cleaning history of building and impact of HVAC will be evaluated as data allow.

# WTC Signature Study

Describe “signature” for WTC dust and refine analytical methods for identification

Retrieve archived dust samples or air filters from impacted buildings to confirm presence of signature in the indoor environment near 9/11

Retrieve archived dust samples or air filters from background studies, or take current background samples, to confirm signature is not in unimpacted locations

Sample interior spaces suspected to be impacted with WTC dust with wipe and microvac